

sequence is an FRI orthologue obtainable from a plant species other than *Arabidopsis thaliana*.

9. A nucleic acid as claimed in claim 5 wherein the variant sequence is a derivative of the FRI nucleotide sequence selected from the group consisting of any of:

- (i) the sequence of Fig 4;
- (ii) the sequence of Fig 5;
- (iii) bases 362-2188 inclusive of Fig 5;

or is degeneratively equivalent to any of these. by way of one or more of addition, insertion, deletion or substitution of the FRI nucleotide sequence by way of one or more of addition, insertion, deletion, or substitution of the FRI nucleotide sequence.

10. An isolated nucleic acid which comprises a sequence which the complement of the FRI or variant nucleotide sequence of claim 1.

12. A process for producing a nucleic acid as claimed in claim 9 which process comprises the step of modifying a FRI nucleotide sequence selected from the group consisting of any of:

- (i) the sequence of Fig 4;
- (ii) the sequence of Fig 5;
- (iii) bases 362-2188 inclusive of Fig 5;

or is degeneratively equivalent to any of these by way of one or more of addition, insertion, deletion or substitution of the FRI nucleotide sequence.

13. A method for identifying or cloning a nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced, which method employs a probe or primer of

claim 11.

14. A method for determining the presence of a nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced within the genetic context of a plant, which method employs a probe or primer of claim 11.

15. A method as claimed in claim 14, which method comprises the steps of:

- (a) providing a preparation of nucleic acid from a plant cell;
- (b) providing a nucleic acid molecule which is a probe or primer, said nucleic acid having a sequence of at least about 16-24 nucleotides in length, which sequence is present in either the FRI nucleotide sequence or a complement thereof and selected from the group consisting of any of:
 - (i) the sequence of Fig 4;
 - (ii) the sequence of Fig 5;
 - (iii) bases 362-2188 inclusive of Fig 5;
- (c) contacting nucleic acid in said preparation with said nucleic acid molecule under conditions for hybridisation, and
- (d) identifying a nucleic acid variant if present by its hybridisation with said nucleic acid molecule.

16. A method as claimed in claim 14, which method comprises the steps of:

- (a) providing a preparation of nucleic acid from a plant cell;
- (b) providing a pair of nucleic acid molecule primers suitable for PCR, at least one of said primers being a primer, said primer having a sequence of at least about 16-24 nucleotides in length, which sequence is present in either the FRI nucleotide sequence or a complement thereof and selected from the group consisting of any of:

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- (i) the sequence of Fig 4;
 - (ii) the sequence of Fig 5;
 - (iii) bases 362-2188 inclusive of Fig 5;
- or is degeneratively equivalent to any of these
- (c) contacting nucleic acid in said preparation with said primers under conditions for performance of PCR,
 - (d) performing PCR and determining the presence or absence of an amplified PCR product.
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18. A recombinant vector which comprises the nucleic acid of claim 1.

19. A vector as claimed in claim 18 wherein the nucleic acid comprised in the vector is further capable of modulating VRN2 and/or FLC expression in a plant in which the nucleic acid is transcribed.

20. A vector as claimed in claim 18 wherein the nucleic acid is operably linked to a promoter for transcription in a host cell, wherein the promoter is optionally an inducible promoter.

21. A vector as claimed in claim 18 which is a plant vector.

22. A method which comprises the step of introducing the vector of claim 18 into a host cell, and optionally causing or allowing recombination between the vector and the host cell genome such as to transform the host cell.

23. A host cell containing or transformed with a heterologous nucleic acid of claim 1.

26. A transgenic plant which is obtainable by the method of claim 25, or which is a clone, or selfed or hybrid progeny or other descendant of said transgenic plant,

Sub B¹⁴ 7 which in each case includes the plant cell containing or transformed with a heterologous nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced.

Q7 27. A plant as claimed in claim 26 which is selected from the group consisting of: sugar beet; a Brassica such as cauliflower, broccoli, cabbage, spinach, curly kale, *B. Napus*; potato; lettuce; a culinary herb.

28. A part of propagule from a plant as claimed in claim 26.

29. An isolated polypeptide which is encoded by the FRI nucleotide sequence of claim 1.

Sub B¹⁴ 31. A polypeptide as claimed in claim 29 which is a fragment of the polypeptide in Figure 6.

Q8 32. A method of making the polypeptide of claim 29, which method comprises the step of causing or allowing expression from a nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced in a suitable host cell.

Q9 34. A polypeptide which comprises the antigen-binding site of the antibody of claim 33.

35. A method for influencing or affecting flowering time in a plant, which method comprises the step of causing or allowing expression of a nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant

into which the nucleic acid is introduced within the cells of the plant, following an earlier step of introducing the nucleic acid into a cell of the plant or an ancestor thereof.

36. A method as claimed in claim 35 for delaying flowering time in a plant, wherein the nucleic acid which comprises an FRI nucleotide sequence which encodes the polypeptide of Fig. 6.

37. A method as claimed in claim 35 for accelerating flowering time in a plant, which method comprises any of the following steps of:

- (i) causing or allowing transcription from a nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced in the plant such as to reduce FRI expression by an antisense mechanism;
- (ii) causing or allowing transcription from a nucleic acid which is capable of delaying the flowering time and thereby extending a vegetative phase in the plant or a part thereof such as to reduce FRI expression by co-suppression;
- (iii) use of nucleic acid encoding a ribozyme specific for a nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced.

39. A method as claimed in claim 35 which further comprises use of a nucleic acid capable of modulating VRN2 expression or FLC expression.